

Application No. 10/031,890 – Amendments to the specification.

Amendments to the specification

- (i) Replace the paragraph starting at the bottom of p.1 and ending at the top of p.2, which starts “A possible way of achieving....” and ends “...the behaviour of the grid” by the following paragraph:

A possible way of achieving this is to use a flat display panel covered by a touch screen. Segmented display was also suggested as possible solution. These solutions give a very powerful combination, but they are very expensive and associated with various technical problems. For example, a prototype of the hardware of the current invention, which was implemented using a touch screen on top of an LCD screen required components that cost more than 1000£, and requires calibration approximately once a ~~weak-week~~. The invention here is based on the observation that many games do not require a complex (and hence expensive) display or input mechanisms. Instead, they can be played on a simple (and hence cheap) grid of points. Once such a grid is made, it opens the possibility of playing many different games on the same grid, by avoiding any constraints on the rules of the games in the hardware, and let a CPU with a flexible program manage the behaviour of the grid.

- (ii) Replace the large paragraph in the middle of p.2 that begins on line 9, which starts “According to the current invention....” and ends “....all the points are switched on” With the following paragraph:

According to the current invention (the *games grid board*), the user accessible part of the grid board is made of *grid points* 1 & 2 which are arranged in a grid on a flat surface 6. Each grid point is a clearly visible element 1 which can detect when it is pressed, and can be illuminated in at least two colours by an illumination source 2 in or below the surface. The figure shows only 3 grid points for clarity, but the actual board has many more grid points (typically 36 - 1000). The figure also shows the illumination source 2 separately from the visible part of the grid point 1, which denotes the fact that pressing a grid point does not affect its illumination. All the grid points are connected to a *games manager* 3, which is a CPU + memory + software. When a grid point is pressed, the games manager 3 is notified (arrows from the visible part 1 to the games manager 3), and the games manager [[3]] controls which sources of illumination are on (arrows from the games manager 3 to the sources of illumination 2). The games manager is programmed to manage various games. Managing a game means that the board displays the state of the game by putting on the appropriate sources of illumination 2. When a sensor 1 is pressed, the games manager computes the implication according the rules of the current game, and changes some of the sources of illumination 2 (possibly none) to reflect the new state of the game. The board may also change which sources of illumination are on when no point is pressed. One of the games played on the board is *FillIt*. The rules of *FillIt* are: Each player in his turn presses an empty point which causes a pattern of points around this point to be switched on with the player colour if they were off, or reverse their colour if they were on. The winner is the player that has more points when all the points are switched on.

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(iii) Replace the paragraph which starts at the bottom and p.3 and ends at the top of p.4, which starts "2) Other two-player games between..." and ends "...to play without the games manager" With the following paragraph:

2) Other two-player games between two human players or between a human and the games manager. Because the games manager checks the legality of moves, performs all the changes and computes the score, these games can have rules that require complex legality checks, extensive changes and difficult score calculations but still be easy to play, which opens many new possibilities. Examples include the games *Viviput* (p. 10), where checking the legality of a move is difficult to humans, *CountLines* (p.10), where computing the score correctly would be difficult for humans, and *FillIt* (p.2), where each move involves large changes to the board. All these games, which apart from these problems are simple and intellectually interesting, are effectively impossible to play without the games manager.

(iv) Replace the second paragraph of p.5 starting on line 6, which starts "In the most general form of the...." And ends "... patterns be the same" By the following paragraph:

In the most general form of the game it requires definitions of six patterns, one for each possible change of illumination, which is probably too complex for the players. However, this can be simplify by never switching off points, and never change changing unilluminated points to the colour of the other player. That leaves three patterns: One that defines which empty points will be switched on with the current player's colour, a second that defines which points of the current player's colour change their colour to the other colour, and a third that defines which points of the other player's colour change to the current player's colour. This can be simplified further by making two or all the three patterns be the same.